

In the Claims:

1. (Currently amended) A method of combined source-channel decoding of digital data coding discrete values or symbols (i, j, etc.) received by a channel decoder (51) of a digital data decoder (50) from a source (10) over a transmission channel (40), ~~wherein~~ comprising the steps of:

applying probabilities ($p(i)$, $p(i/j)$) associated with said symbols ~~are applied~~ to a channel decoding trellis of said channel decoder (51); and, ~~which method is characterized in that~~
statistically estimating said probabilities ~~are estimated statistically~~ from occurrences of the symbols estimated by said decoder (50).

2. (Currently amended) A The combined decoding method according to claim 1, ~~characterized in that~~ wherein said probabilities are estimated iteratively.

3. (Currently amended) A The combined decoding method according to claim 1, ~~wherein or claim 2, characterized in that~~ said probabilities are probabilities ($p(i)$) of occurrences of the symbols.

4. (Currently amended) A The combined decoding method according to claim 1, ~~wherein any one of claims 1 to 3, characterized in that~~ said probabilities are probabilities ($p(i/j)$) of transitions between the symbols.

5. (Currently amended) A The combined decoding method according to claim 1,
wherein ~~any one of claims 1 to 4, characterized in that~~ said channel decoder (51) is a
convolutional decoder associated with a convolutional channel coder.

6. (Currently amended) A The combined decoding method according to claim 1,
wherein ~~any one of claims 1 to 5, characterized in that~~ the decoder is a turbodecoder and said
channel decoder is an input channel decoder (51) of said turbodecoder.

7. (Currently amended) A The combined decoding method according to claim 1,
wherein ~~any one of claims 1 to 6, characterized in that~~ said symbols are coded by variable length
codes (VLC) represented by a binary tree of finite size and said probabilities ($p(i)$, $p(i/j)$) are
associated with each branch of said tree and applied to the corresponding stages of said channel
decoding trellis.

8. (Currently amended) A combined source-channel decoder for digital data,
comprising:

a channel decoder (51) adapted to receive digital data transmitted from a source (10) over
a transmission channel (40) and coding discrete values or symbols (i, j, etc.) and probabilities
associated with said symbols; ~~which combined decoder (50) is characterized in that it further~~
~~comprises~~

a generator (54) of histograms of occurrences of the symbols estimated by the decoder
(50);
[[,]]

means (55) for calculating probabilities ($p(i)$, $p(i/j)$) associated with said restored symbols;[[,]] and

means (56) for applying said probabilities to a channel decoder trellis of the channel decoder (51).

9. (Currently amended) A The combined decoder according to claim 8, ~~characterized in that~~ wherein said channel decoding trellis produces binary values ((0, 1) or (-1, 1) considering modulation) and said means for applying said probabilities comprise a module (56) for converting symbol probabilities ($p(i)$, $p(i/j)$) into probabilities of binary values ((0, 1) or (-1, 1)).

10. (Currently amended) A The combined decoder according to claim 8, wherein ~~either claim 8 or claim 9, characterized in that~~ said probabilities are probabilities ($p(i)$) of occurrences of the symbols.

11. (Currently amended) A The combined decoder according to claim 8, wherein any ~~one of claims 8 to 10, characterized in that~~ said probabilities are probabilities ($p(i/j)$) of transitions between the symbols.

12. (Currently amended) A The combined decoder according to claim 8, wherein any ~~one of claims 8 to 11, characterized in that~~ said channel decoder (51) is a convolutional decoder associated with a convolutional channel coder.

13. (Currently amended) A The combined decoder according to claim 8, wherein ~~any one of claims 8 to 12, characterized in that~~ the decoder is a turbodecoder and said channel decoder is an input channel decoder (51) of said turbodecoder.

14. (Currently amended) A The combined decoder according to claim 8, wherein ~~any one of claims 8 to 13, characterized in that~~ said symbols are coded by variable length codes (VLC) represented by a binary tree of finite size and said probabilities ($p(i)$, $p(i/j)$) are associated with each branch of said tree and applied to the corresponding stages of said channel decoding trellis.